

supportive management of complications of severe infection of said SARS-CoV-2 selected from pneumonia, hypoxemic respiratory failure/ARDS, sepsis and septic shock, cardiomyopathy and arrhythmia, acute kidney injury, and complications from prolonged hospitalization including secondary bacterial and fungal infections, thromboembolism, gastrointestinal bleeding, critical illness polyneuropathy/myopathy, or a combination thereof.

**22.** The method of claim **21**, wherein said pharmaceutical composition is configured to be administered to said subject to maintain said plasma concentration of said modified antibody or an antigen-binding fragment thereof in a therapeutic effective range of from 30 µg/mL to 3500 µg/mL for a time period ranging from 1 to 4 weeks after said administration and wherein said administration is a single administration.

**23.** The method of claim **18**, wherein said modified antibody or said antigen-binding fragment thereof is configured to have a half-life ( $T_{1/2}$ ) in a range of from 50 to 120 days in said subject.

**24.** (canceled)

**25.** The method of claim **18**, wherein said pharmaceutical composition is configured to be administered to said subject in a range of from 300 mg to 8000 mg.

**26.** The method of claim **18**, wherein said pharmaceutical composition is configured to have said modified antibody at a concentration in a range of from 10 mg/mL to 150 mg/mL.

**27.** The method of claim **18**, wherein said pharmaceutical composition is administered to said subject via intravenous injection (IV), intramuscular injection (IM), subcutaneous (SC) injection, or a combination thereof.

**28.** The method of claim **18**, wherein said subject is a patient of age 60, 70 or 80 years old or older.

**29.** The method of claim **18**, wherein said effective dosage is determined by a dosing process that comprises determining concentration progression data based on calculated or measured pharmacokinetics (PK), testing plasma concentrations over a testing period of time, predicted plasma concentrations over a prediction period of time, or a combination thereof, of said modified antibody or said antigen-binding fragment thereof, and producing said effective dosage based on said concentration progression data.

**30.** The method of claim **29**, wherein said effective dosage is selected to maintain said plasma concentration in a range of from 300 µg/mL to 1500 µg/mL in 3 to 12 months after said administration.

**31.** The method of claim **29**, wherein said effective dosage is selected to maintain said plasma concentration in a range of from 1500 µg/mL to 3500 µg/mL in 1 day to 2 months after said administration.

**32.** The method of claim **18**, wherein said pharmaceutical composition further comprises one or more subsequent modified antibodies selected from a first subsequent modified antibody comprising two antigen-binding domains each having same or different affinities to said SARS-CoV-2, a second subsequent modified antibody comprising a first antigen-binding domain having a binding affinity to said SARS-CoV-2 and a second antigen-binding domain having a binding affinity to a second pathogen that is different from said SARS-CoV-2, a third subsequent modified antibody comprising two antigen-binding domains each having a same or different binding affinity to said second pathogen, or a combination thereof.

**33.** (canceled)

**34.** The method of claim **18** further comprising administering a pharmaceutically effective amount of one or more bioactive agents to said subject simultaneously or sequentially with said pharmaceutical composition, wherein said bioactive agent comprises a therapeutic agent or a prophylactic agent selected from an anti-viral agent, an antiviral peptide, an anti-viral antibody, an anti-viral compound, an anti-viral cytokine, an anti-viral oligonucleotide, an RNA dependent RNA polymerase inhibitor, a non-nucleoside reverse transcriptase inhibitor (NNRTI), nucleoside reverse transcriptase inhibitor (NRTI), purine nucleoside, antiviral interferon, adamantine antiviral compound, remdesivir, chloroquine, hydroxychloroquine, lopinavir, ritonavir, APN01, favilavir, mesalazine, toremifene, eplerenone, paroxetine, sirolimus, dactinomycin, irbesartan, emodin, mercaptopurine, melatonin, quinacrine, carvedilol, colchicine, camphor, equilin, oxymetholone, nafamosta, camostat, baricitinib, darunavir, ribavirin, galidesivir, BCX-4430, Arbidol, nitazoxanide, one or more derivatives thereof, or any combination thereof.

**35.** The modified antibody or an antigen-binding fragment thereof of claim **6**, wherein said modified antibody or an antigen-binding fragment thereof is bispecific and comprises a first antigen binding domain comprising:

a HCDR1 comprising the sequence of SEQ ID NO: 105, a HCDR2 comprising the sequence of SEQ ID NO: 106, a HCDR3 comprising the sequence of SEQ ID NO: 107, a LCDR1 comprising the sequence of SEQ ID NO: 108, a LCDR2 comprising the sequence of SEQ ID NO: 109, and a LCDR3 comprising the sequence of SEQ ID NO: 110;

and a second antigen binding domain comprising:

a HCDR1 comprising the sequence of SEQ ID NO: 136, a HCDR2 comprising the sequence of SEQ ID NO: 137, a HCDR3 comprising the sequence of SEQ ID NO: 138, a LCDR1 comprising the sequence of SEQ ID NO: 139, a LCDR2 comprising the sequence of SEQ ID NO: 140, and a LCDR3 comprising the sequence of SEQ ID NO: 141.

**36.** The pharmaceutical composition of claim **14**, wherein said pharmaceutical composition comprises a first modified antibody or an antigen-binding fragment thereof comprising:

a HCDR1 comprising the sequence of SEQ ID NO: 105, a HCDR2 comprising the sequence of SEQ ID NO: 106, a HCDR3 comprising the sequence of SEQ ID NO: 107, a LCDR1 comprising the sequence of SEQ ID NO: 108, a LCDR2 comprising the sequence of SEQ ID NO: 109, and a LCDR3 comprising the sequence of SEQ ID NO: 110; and

a second modified antibody or an antigen-binding fragment thereof, comprising a HCDR1 comprising the sequence of SEQ ID NO: 136, a HCDR2 comprising the sequence of SEQ ID NO: 137, a HCDR3 comprising the sequence of SEQ ID NO: 138, a LCDR1 comprising the sequence of SEQ ID NO: 139, a LCDR2 comprising the sequence of SEQ ID NO: 140, and a LCDR3 comprising the sequence of SEQ ID NO: 141.

**37.** The method of claim **1**, wherein said antigen-binding affinity comprises SARS-CoV-2 binding affinity, said antigen-binding affinity comprises at least 50% less or non-detectable binding affinity to SARS-CoV or MERS-CoV compared to said SARS-CoV-2 binding affinity, and said